Meng-Lin Wu

765-337-6128  
[m\_l\_wu@hotmail.com](mailto:m_l_wu@hotmail.com)  
<https://menglin-wu.github.io/>  
<https://scholar.google.com/citations?hl=en&user=egUzoygAAAAJ>

Education

**Purdue University** West Lafayette, Indiana   
PhD, Computer Science 2019

Expertise

Computational Photography

* Bokeh, HDR imaging, Blurring/deblurring, Multi-perspective acquisition and rendering

Computer Graphics

* AR/VR, 3D photography

Experience

**Staff Engineer** at **Qualcomm Technologies, Inc.**, San Diego, California 2019 – present

* Drive quantization-aware ML training algorithms development of a team of 4. Made yearly releases to internal product teams. Manage feature requests from product teams.
* Mentored graduate students and interns on image restoration, object detection, and semantic image editing.
* Patent filed / received in the areas: i) 3D photography, ii) light field, depth, and HDR sensing, iii) image segmentation and object detection, iv) diffusion models.
* Shipped the first always-sensing mobile camera feature.

**Research Intern** at **Facebook Reality Labs**, Redmond, Washington 2018

* Researched ML-based adaptive ray casting and sparse image denoising / reconstruction.

**Autonomous Driving Engineering Intern** at **nuTonomy**, Cambridge, Massachusetts 2017

* Simulated sensors and vehicle dynamics.

**Software Developer Intern** at **Google**, Montréal, Canada 2016

* Implemented OpenGL ES 3 features and helped open-source SwiftShader

**Intern** at **VMware**, Palo Alto, California 2014

* Implemented OpenGL 3 features and helped release OpenGL 3.3 in VMware Workstation 12 and Fusion 8.

**Game Planning Specialist** at **International Games System**, Taipei, Taiwan 2009 – 2010

* Developed a physics engine for arcade racing games.

Publications

**Consistent and multi-scale scene graph transformer for semantic-guided image outpainting**CA Yang, ML Wu, RA Yeh, YCF Wang  
*International Conference on Image Processing (ICIP) 2023*

**Direct handheld burst imaging to simulated defocus**ML Wu, VRK Dayana, H Hwang  
*International Conference on Image Processing (ICIP) 2022*

**Scene graph expansion for semantics-guided image outpainting**CA Yang, CY Tan, WC Fan, CF Yang, ML Wu, YCF Wang  
*Conference on Computer Vision and Pattern Recognition (CVPR) 2022*

**Robust image outpainting with learnable image margins**CY Tan, CA Yang, SF Chen, ML Wu, YCF Wang  
*International Conference on Image Processing (ICIP) 2021*

**Automatic deictic gestures for animated pedagogical agents**SRK Kappagantula, N Adamo-Villani, ML Wu, V Popescu  
*IEEE Transactions on Learning Technologies, 2019*

**RGBD temporal resampling for real-time occlusion removal**ML Wu, V Popescu  
*SIGGRAPH Symposium on Interactive 3D Graphics and Games (I3D) 2019*

**Anchored multiperspective visualization for efficient VR navigation**ML Wu, V Popescu  
*International Conference on Virtual Reality and Augmented Reality (EuroVR) 2018*

**Efficient VR and AR navigation through multiperspective occlusion management**ML Wu, V Popescu  
*IEEE Transactions on Visualization and Computer Graphics, 2017*  
(*IEEE Virtual Reality Conference 2018* invited oral presentation)

**Digital learning activities delivered by eloquent instructor avatars: scaling with problem instance**S Anasingaraju, ML Wu, N Adamo-Villani, V Popescu, SW Cook, M Nathan, M Alibali  
*SIGGRAPH ASIA 2016 Symposium on Education*

**Multiperspective focus+context visualization**ML Wu, V Popescu  
*IEEE Transactions on Visualization and Computer Graphics, 2016*

**Animation killed the video star**V Popescu, N Adamo-Villani, ML Wu, SD Rajasekaran, MW Alibali, M Nathan, SW Cook  
*Proceedings of CHI 2014 Workshop on Gesture-based Interaction Design: Communication and Cognition*

Shipped Games

**Speed Driver 4: World Fever** (2012)

**Power Truck** (2011)

**Speed Rider 2** (2011)

**Speed Driver 3: Crash Hour** (2010)